

MACV J2
LOGISTIC FACT BOOK
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WORKING PAPER
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INTRODUCTION

The purpose of this fact book is to provide reference data relating to VC/NVA logistic requirements. The information contained in this book was compiled from documents, interrogation reports, FM 101-10, DIA Logistic Briefing, 28 March 1966, and published intelligence documents.

All classes of supplies and type enemy units are referenced except Class III (Fuels and Lubricants). Class III requirements for in-country enemy forces are negligible. The small amount of Class III required is normally procured from in-country sources.

Class II and IV supplies and equipment relate primarily to clothing, equipment, and weapons. There is not enough information available to determine the expenditure rate of other Class II and IV (medical, signal, and engineer) supplies. A factor of .5 lbs per man, per day consumption rate for Class II and IV supplies (except weapons) is used for NVA units. A factor of .1 lbs per man, per day consumption rate for Class II and IV supplies (except weapons) is used for VC units. These factors are based on the DIA Logistic Briefing.

Levels of combat are used primarily as a logistic measure. Information currently available is insufficient to establish with any degree of certainty, the level of combat in which the enemy is currently engaged. It is estimated that the present level of combat is 1 day in 30. The fact book includes requirements for 1 day in 30, 2 days in 30 (1 in 15), and 3 days in 30 (1 day in 10).

Studies are in progress to provide a comprehensive and detailed plan of enemy logistic requirements. It is expected that these studies will provide data on classes of supplies, expenditure rates, and logistic organization which is not available in this fact book.

Computations include an accuracy to 2 and 3 decimal places. This merely reflects an attempt at arithmetical accuracy and should not necessarily be construed as an accuracy in actual expenditures.

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DEFINITIONS

Level of Combat

The intensity of combat measured in terms of supply expenditures by class for purposes of computing enemy logistic requirements.

1 days combat

Expenditure by class of supplies as follows:

Class I - Combat ration

Class II & IV - Combat requirement (less weapons)

Class V - $\frac{1}{2}$ basic load

Weapons - FWT factor.

1 days combat in 20

Expenditure of supplies as follows:

Class I - 1 days combat ration, 29 days non-combat ration.

Class II and IV - 1 days combat requirement, 29 days non-combat requirement.

Class V - $\frac{1}{2}$ basic load.

Weapons - 5% FWT

2 days combat in 30
(1 in 15)

Expenditure of supplies as follows:

Class I - 2 days combat ration, 29 days noncombat rations.

Class II and IV - 2 days combat requirement, 29 days non-combat requirement.

Class V - 1 basic load

Weapons - 6% FWT

4 days combat in 30
(1 day)

Expenditure of supplies as Follows:

Class I - 3 days combat ration, 27 days non-combat ration.

Class II and IV - 3 days combat requirement, 27 days non-combat requirement.

Class V - 11 basic load

Weapons - 75 PVT

Basic load

Refers to Class V and that amount of ammunition stockpiled within the using unit for each weapon assigned to the unit.

Class I - Rations

including combat, non-combat issue and supplemental foods.

*Class II

Supplies and equipment normally issued to the individual including weapons. Also may include certain organizational items.

Class III

Fuels and lubricants for all purposes except aircraft.

*Class IV

Normally includes special materials and items of equipment as well as additional items over and above individual issue

Enemy logistic classification

The enemy probably distinguishes his supplies by the following breakdown:

Rations: (Class I)

Supplies and equipment: (Class II & IV)

Weapons and ammunition: (Class V, Class II & IV)

POL: (Class III)

Daily supply rate

The average daily short tons of all classes of supply required to maintain a specified level of combat

*Class I and IV - These classes of supplies are normally limited together since in most cases it is difficult to separate them from the other classes of issue.

Division equivalent

The equivalent in type units for
Class V and weapons requirements

CLASS I
(Rations)

CLASS II & IV
(Supply & Equipment)

NON-SUPPLIES AND EQUIPMENT:

1. Non-Combat Requirement - 0.5 #/man/day. *
2. Combat Requirement - 0.5 #/man/day (additional) **
3. Requirements:

a. <u>1 day in 30:</u>	Combat	1 x 1.0 =	1.0
	Other	29 x 0.5 =	<u>14.5</u>
			15.5

0.5167 #/man/day

b. <u>2 days in 30:</u>	Combat	2 x 1.0 =	2.0
	Other	28 x 0.5 =	<u>14.0</u>
			16.0

0.533 #/man/day

c. <u>3 days in 30:</u>	Combat	3 x 1.0 =	3.0
	Other	27 x 0.5 =	<u>13.5</u>
			16.5

0.55 #/man/day

* # = lbs

.5 #/man/day is based on DIA Logistic Study, 28 March 66.

** It is estimated that for each day in combat Class II and IV requirements are doubled.

Most frequently carried items by the NVA soldier

Uniform, khaki 1 or 2

Pajamas, black 1 or 2

Underwear 2 to 4 sets

cap, cotton

Sandals, rubber 1 pr

Straps, rubber 2

cotton sweater

Nylon tent

Nylon poncho

Belt leather

Rice Belt 2

Hammock

Mosquito net

Rucksack bag 1

Canteen

canteen cover

bowl, metal

Spoon 1

Web belt 1

Canvas pack

Rice bag

Ammo pouch

Medical kit

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Items of equipment sometimes issued to the NVA soldier

Towel

Socks

Knife

Shovel

Blanket

Protective mask

Flashlight

Batteries

Cartridge belt

Boots

Jacket

Shoes

Shorts

Rubber boots

Field coat

Fatigues

Hoe

Lighter

Cooking pan

Salt bag

Kettle

Machete

Document bag

NVA MEDICAL
(Personal)

<u>ITEM*</u>	<u>AMOUNT</u>	<u>PERIODIC REISSUE</u>
Vitamin B ₁ pills	30-60	as appropriate
Vitamin C pills	30-60	as appropriate
Bandages, cotton rolls	2	as appropriate
Tiger balm	1 bottle	as appropriate
Quinine pills	20-40	as appropriate
Water purification pills	30-60	as appropriate
Dysentary pills	20-40	as appropriate
Malaria pills	30-60	as appropriate
Permanganate of pottassium	1 bottle	as appropriate
Head ache pills	20-40	as appropriate

* Infiltrators often receive only partial amounts of the above listed medical equipment.

VC SUPPLIES AND EQUIPMENT:

1. Non-Combat Requirement - 0.1 #/man/day.
2. Combat Requirement - 0.1 #/man/day (additional)
3. Requirements:

a. <u>1 day in 30:</u>	Combat	$1 \times 0.2 =$	0.2
	Other	$29 \times 0.1 =$	<u>2.9</u>
			3.1

0.1033 #/man/day

b. <u>2 days in 30:</u>	Combat	$2 \times 0.2 =$	0.4
	Other	$28 \times 0.1 =$	<u>2.8</u>
			3.2

0.1067 #/man/day

c. <u>3 days in 30:</u>	Combat	$3 \times 0.2 =$	0.6
	Other	$27 \times 0.1 =$	<u>2.7</u>
			3.3

0.1100 #/man/day

Most commonly carried VC equipment

Khaki uniform 1 or 2

Black pajamas 1 or 2

Underwear 2 sets

Sandals (rubber) 1 pr

Rice belt 1

Mosquito net 1

Nylon sheet (poncho/tent) 1

Shorts 1 pr

Hammock 1

Towel 1

Rucksack 1

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Items of equipment sometimes carried by the VC

Sandal straps 1 pr

Leather belt 1

Cotton blanket 1

Shovel 1

Duffle bag 1

Cap or Bamboo helmet 1

Field pack 1

Fatigue uniform 1

Sweater 1

Shirt 1

Canteen 1

Rice bag 1

Cartridge pouch 1

Mosquito bar 1

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VC Equipment Reissue Intervals

Khaki uniform	annual
Black pajamas	annual
Underwear	annual
Hammock	every 1 to 3 years
Sweater	annual
Mesquite net	every 1 to 3 years
Canteen	every 1 or 2 years
Sandals	annual
Plastic nylon sheet	annual
Rice belt	annual
Towel	annual

Items of equipment not listed are replaced as appropriate.

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Weights of items of equipment as determined by CMEC

1 ea uniform, khaki	1 lb 12½ oz
1 ea uniform, pajama, black	14 3/4 oz
2 sets underwear	10½ oz
1 ea hammock	1 lb 7 oz
1 ea sweater	9¼ oz
1 ea pack, field	1 lb 9 oz
1 ea net, mosquito	11 oz
1 ea canteen	9 oz
1 ea belt, pistol	7¼ oz
1 pr rubber tire sandals	1 lb 10½ oz
1 ea cap, cloth	3½ oz
2 ea sheet, plastic nylon	2 lb 2½ oz
1 ea pouch, ammo	6 oz
1 pr socks	2½ oz
1 ea cover, canteen	2½ oz
2 ea bandolier, rice (rice belt)	9¼ oz
1 ea bowl, steel, eating	4 oz
1 ea spoon	1 3/4 oz
1 ea cup, canteen	4 oz
1 ea pouch, grenade	7 oz
1 ea belt, trousers	2 oz

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CLASS V
(Ammo)

Class II (Weapons)

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NVA-REGIMENTAL BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Rd	Weight Load	Total Ammo weight
K-54	24	1.9	45.6	24	0.0243	0.583	14.0
AK-47	123	9.48	1,166.0	300	0.0361	10.83	1332.0
SKS	278	8.49	2,360.2	100	0.0361	3.61	1003.6
RPD	27	15.6	421.2	600	0.0361	21.66	584.8
RP-46	9	28.7	258.3	800	0.050	4.0	360.0
RP-42	27	6.3	170.1	8	4.0	32.0	864.0
82mm	3	123.0	369.0	20	7.28	145.6	436.8
75mm	3	143.5	430.5	20	20.35	407.0	1221.0
SGM	3	30.42	91.3	900	0.050	45.0	135.0
Grenades				1400	0.79	1106.0	1106.0
TOTAL	497		5,312.2				7057.3

TOTAL

SHOOT TONS

2.6561

(Wt) Basic Load

3.5287

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NVA-MORTAR BATTALION

Nomenclature	Number Per Battalion	Weight Per weapon	Total Weapon Weight	Basic Load	Weight Rd	Weight Load	Total Ammo Weight
X-54 Pistol	19	1.9	36.1	24	0.0243	0.583	11.1
AK-47 SMG	49	9.48	465.4	300	0.0361	10.83	530.7
SKS Rifle	82	8.49	696.1	100	0.0361	3.61	296.0
120mm Mort	6	606.0	3,636.0	20	35.05	701.0	4,206.0
82mm Mort	12	123.0	1,476.0	20	7.28	145.6	1,747.0
TOTAL	168		6,309.6				6,791.0
SHORT TONS			3.1548		(wt) Basic Load	-----	-3.3955

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NVA - RECOILLESS RIFLE BATTALION

Approved For Release 2002/08/16 : CIA-RDP78S02149R000200130006-9

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
K-54	19	1.9	36.1	24	0.0243	0.583	11.1
AK-47	31	9.48	293.9	300	0.0361	10.83	335.7
SKS	106	8.49	916.9	100	0.0361	3.61	389.9
75mm	18	143.5	2,583.0	20	20.35	407.0	7,326.0
TOTAL	176		3,829.9				8,062.7
SHORT TONS			1.9149	(wt) Basic Load			4.0314

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Approved For Release 2002/08/16 : CIA-RDP78S02149R000200130006-9

NVA - AAA BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
AK-54 Pistol	19	1.9	36.1	24	0.0243	3.583	11.1
AK-47 SMG	40	9.48	436.1	300	0.0361	10.83	498.8
AKS Rifle	72	8.49	611.3	100	0.0361	3.61	259.9
12.7mm HMG	18	347.5	6,255.0	1,000	0.309	309.0	5,562.0
TOTAL	155		7,338.5				6,331.2
GRAWT TONS			3.6693	(wt) Basic Load			3.1556

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VC MAIN FORCE BATTALION

w/new family

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Attno Weight (Total)
K-54 Pistol	23	1.9	43.7	24	0.0243	0.583	13.4
AK-47 SMC	114	9.48	1,080.7	300	0.0361	10.83	1,234.6
SKS Rifle	254	8.49	2,156.5	100	0.0361	3.61	916.9
RPD AR	27	15.6	421.2	600	0.0361	21.66	584.8
ROG-2 AT	18	6.3	113.4	8	4.0	32.0	576.0
RP-46 LMG	6	28.7	172.2	800	0.050	40.0	240.0
57mm RR	3	78.3	234.9	20	5.7	114.0	342.0
60mm Mort	6	44.5	267.9	20	3.3	66.0	396.0
82mm Mort	2	123.0	246.0	20	7.28	145.6	291.2
SGM HMG	3	30.42	91.3	900	0.05	45.0	135.0
Grenade				1,000	0.79	790.0	790.0
TOTAL	456		4,826.9				5,519.9
50-T TONS			2.4135			(Wt) Basic Load	2.7599

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VC MORTAR BATTALION - 82mm

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
82mm Mort	12	123.0	1,476.0	20	7.28	145.6	1,747.2
K-54 Pistol	15	1.9	28.5	24	0.0243	0.583	8.2
AK-47 SMG	23	9.48	312.8	300	0.0361	10.83	357.4
SKS Rifle	64	8.49	543.4	100	0.0361	5.61	231.0
TOTAL	124		2,360.7				2,344.3
K-50 SMG	33	8.3	273.9	175	0.0243	4.25	140.3
K-44 Rifle	64	8.9	569.6	100	0.05	5.0	320.0
TOTAL	124		2,348.0				2,216.2
AVS TOTAL	125		2,354.4				2,280.3
CHART TONS			1.1772	(Wt) Basic Load	-----		1.1401

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VC - RECCILLLESS RIFLES BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
75mm RR	4	143.5	574.0	20	20.35	407.0	1628.0
57mm RR	8	78.3	626.4	20	5.7	124.0	912.0
K-54 Pistol	15	1.9	28.4	24	0.0243	0.583	8.7
AK-47 SMG	21	9.48	199.1	300	0.0361	18.83	297.4
SKS Rifle	74	8.49	628.3	100	0.0461	9.61	267.1
TOTAL	122		2,056.2				3,042.2
K-50 SMG	21	8.3	174.3	175	0.0243	4.25	89.3
K-44 Rifle	74	8.9	658.6	100	0.05	5.0	370.0
TOTAL	122		2,061.7				3,008.0
AVE TOTAL	122		2,058.9				3,025.6
SHORT TONS			1.0295				1.5128

(Wt.) Basic Load - - - - -

VC - AAA BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total weapon weight	Basic Load	Weight Per Rd	Weight Per Load	Total ammo weight
12.7mm HMG	12	83.5	1,002.0	1,000	0.309	309.0	3,708.0
K-54 Pistol	15	1.9	28.5	24	0.0243	0.583	8.7
AK-47 SMG	21	9.48	293.9	300	0.0361	10.83	335.7
SKS Rifle	50	8.49	424.5	100	0.0361	3.61	180.5
TOTAL	108		1,748.9				4,232.9
K-50 SMG	31	8.3	257.3	175	0.0243	4.25	131.8
K-44 Rifle	50	8.9	445.0	100	0.050	5.0	250.0
TOTAL	108		1,732.8				4,098.5
AVE TOTAL	108		1,740.8				4,165.7
SHORT TONS			0.8704				-2.0829

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VC - LOCAL FORCE BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Ammo Weight
K-54 Pistol	5	1.9	9.5	24	0.0243	0.583	2.9
K-50 SMG	26	8.3	215.8	175	0.0243	4.25	110.5
K-44 Rifle	202	8.9	1,797.8	100	0.05	5.0	1,010.0
DFM AR	22	26.9	591.8	400	0.05	20.0	440.0
HKG-2 AT	12	6.3	75.6	8	4.0	32.0	384.0
RP-46 LMG	6	28.7	172.2	800	0.05	40.0	240.0
57mm RR	6	78.3	469.8	20	5.7	111.0	61.0
60mm Mort	6	44.5	267.0	20	3.2	66.0	396.0
81mm Mort	3	132.0	396.0	20	7.15	143.0	429.0
SC-43	6	30.42	182.5	900	0.05	45.0	270.0
Grenades				700	0.79	553.0	553.0
TOTAL	294		4,172.0				4,517.4
CHART TONS			2.0890	(wt) Basic Load			-2.2597

SAPPER BATTALION

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Immo Weight
X-54 Pistol	7	1.9	13.3	24	0.0243	0.583	4.1
M-16 SMG	30	9.48	284.4	300	0.0361	10.83	324.9
M-16 Rifle	18	3.49	152.8	100	0.0361	3.61	63.0
M-16 AT	3	6.3	18.9	8	4.0	32.0	96.0
7mm Rm	3	78.3	234.9	20	5.7	114.0	342.0
60mm Mort	2	44.5	89.0	20	3.3	66.0	198.0
81mm Mort	3	132.0	396.0	20	7.15	103.0	423.0
Grenade				500	0.79	395.0	395.0
TOTAL	67		1,233.9				1,854.0
SHOUL TONS		0.017		(Wt) Basic Load			-0.927

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LOCAL SUPPORT COMPANY - 100 MEN EQUIP

Nomenclature	Number Per Battalion	Weight Per Weapon	Total Weapon Weight	Basic Load	Weight Per Rd	Weight Per Load	Total Weapon Weight
K-50	24	8.3	199.2	175	0.0243	4.25	102.0
7-44	40	8.9	356.0	100	0.05	5.0	200.0
DEM	8	26.9	215.2	300	0.05	15.0	120.0
HP-46	1	28.6	28.6	600	0.05	30.0	30.0
60mm	1	44.5	44.5	20	2.3	44.5	66.0
Grenade				150	0.79	117.5	117.5
TOTAL	74		843.5				626.5
SHORT TONS			C.4218				-0.3185
			(Wt) Basic Load-				

UNCLASSIFIED

WEAPONS REPLACEMENT AND AMMUNITION EXPENDITURE

REPLACEMENT AND EXPENDITURE:

1. NVA Battalion:

a. Replacement:

$$1 \text{ day in 30} \quad \frac{2.6561 \times 0.05}{30} = 0.0044 \text{ T/D}$$

$$2 \text{ days in 30} \quad \frac{2.6561 \times 0.06}{30} = 0.0053 \text{ T/D}$$

$$3 \text{ days in 30} \quad \frac{2.6561 \times 0.07}{30} = 0.0062 \text{ T/D}$$

b. Ammunition Expenditure/day of combat

Formula: $\frac{\text{Basic Load of Ammc}}{1/2 \text{ Basic Ld} \times 30} = \text{T/D}$ $\frac{3.5287}{2 \times 30} = 0.0588 \text{ T/D}$ for 1 day in 30

2. NVA Mortar Battalion:

a. Replacement:

$$1 \text{ day in 30} \quad \frac{3.1548 \times 0.05}{30} = 0.0053 \text{ T/D}$$

$$2 \text{ days in 30} \quad \frac{3.1548 \times 0.06}{30} = 0.0063 \text{ T/D}$$

$$3 \text{ days in 30} \quad \frac{3.1548 \times 0.07}{30} = 0.0074 \text{ T/D}$$

b. Ammunition expenditure/day in combat

$$\frac{3.3955}{2 \times 30} = 0.0566 \text{ T/D}$$

* T/D = Tons Daily

3. NVA Recoilless Rifle Battalion:

a. Replacement:

$$1 \text{ day in 30} \quad \frac{1.9149 \times 0.05}{30} = 0.0032^{T/D}$$

$$2 \text{ days in 30} \quad \frac{1.9149 \times 0.06}{30} = 0.0038^{T/D}$$

$$3 \text{ days in 30} \quad \frac{1.9149 \times 0.07}{30} = 0.0045^{T/D}$$

b. Ammunition Expenditure/day of combat

$$\frac{4.0314}{2 \times 30} = 0.0672^{T/D}$$

4. NVA AAA Battalion:

a. Replacement:

$$1 \text{ day in 30} \quad \frac{3.6693 \times 0.05}{30} = 0.0061^{T/D}$$

$$2 \text{ days in 30} \quad \frac{3.6693 \times 0.06}{30} = 0.0073^{T/D}$$

$$3 \text{ days in 30} \quad \frac{3.6693 \times 0.07}{30} = 0.0086^{T/D}$$

b. Ammunition expenditure/day of combat

$$\frac{3.1656}{2 \times 30} = 0.0528^{T/D}$$

5. VC Main Force Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{2.4866 \times 0.05}{30} = 0.0041 \text{ T/D}$$

$$2 \text{ days in } 30 \quad \frac{2.4866 \times 0.06}{30} = 0.0050 \text{ T/D}$$

$$3 \text{ days in } 30 \quad \frac{2.4866 \times 0.07}{30} = 0.0058 \text{ T/D}$$

b. Ammunition Expenditure/day of combat

$$\frac{2.6482}{2 \times 30} = 0.0441 \text{ T/D}$$

6. VC Mortar Battalion:

a. Replacement

$$1 \text{ day in } 30 \quad \frac{1.1772 \times 0.05}{30} = 0.0020 \text{ T/D}$$

$$2 \text{ days in } 30 \quad \frac{1.1772 \times 0.06}{30} = 0.0024 \text{ T/D}$$

$$3 \text{ days in } 30 \quad \frac{1.1772 \times 0.07}{30} = 0.0027 \text{ T/D}$$

b. Ammunition Expenditure/day of combat

$$\frac{1.1401}{2 \times 30} = 0.0190 \text{ T/D}$$

7. VC Recoilless Rifle Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{1.0295 \times 0.05}{30} = \underline{0.0017 \text{ T/D}}$$

$$2 \text{ days in } 30 \quad \frac{1.0295 \times 0.06}{30} = \underline{0.0021 \text{ T/D}}$$

$$3 \text{ days in } 30 \quad \frac{1.0295 \times 0.07}{30} = \underline{0.0024 \text{ T/D}}$$

b. Ammunition Expenditure/day of combat

$$\frac{1.5128}{2 \times 30} = \underline{0.0252 \text{ T/D}}$$

8. VC AAA Battalion:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{0.8704 \times 0.05}{30} = \underline{0.0015 \text{ T/D}}$$

$$2 \text{ days in } 30 \quad \frac{0.8704 \times 0.06}{30} = \underline{0.0017 \text{ T/D}}$$

$$3 \text{ days in } 30 \quad \frac{0.8704 \times 0.07}{30} = \underline{0.0020 \text{ T/D}}$$

b. Ammunition expenditure/day of combat

$$\frac{2.0829}{2 \times 30} = \underline{0.0347 \text{ T/D}}$$

9. VC Local Force Battalion:

a. Replacement:

1 day in 30

$$\frac{2.0890 \times 0.05}{30} = \underline{0.0035 \text{ T/D}}$$

2 days in 30

$$\frac{2.0890 \times 0.06}{30} = \underline{0.0042 \text{ T/D}}$$

3 days in 30

$$\frac{2.0890 \times 0.07}{30} = \underline{0.0049 \text{ T/D}}$$

b. Ammunition expenditure/day of combat

$$\frac{2.2597}{2 \times 30} = \underline{0.0376 \text{ T/D}}$$

10. Sapper Battalion:

a. Replacement:

1 day in 30

$$\frac{0.617 \times 0.05}{30} = \underline{0.0010 \text{ T/D}}$$

2 days in 30

$$\frac{0.617 \times 0.06}{30} = \underline{0.0012 \text{ T/D}}$$

3 days in 30

$$\frac{0.617 \times 0.07}{30} = \underline{0.0014 \text{ T/D}}$$

b. Ammunition expenditure/day of combat

$$\frac{0.927}{2 \times 30} = \underline{0.0155 \text{ T/D}}$$

11. 100 Man Slice - Company, Platoon, Irregular:

a. Replacement:

$$1 \text{ day in } 30 \quad \frac{0.4218 \times 0.05}{30} = \underline{0.0007 \text{ T/D}}$$

$$2 \text{ days in } 30 \quad \frac{0.4218 \times 0.06}{30} = \underline{0.0008 \text{ T/D}}$$

$$3 \text{ days in } 30 \quad \frac{0.4218 \times 0.07}{30} = \underline{0.0010 \text{ T/D}}$$

b. Ammunition expenditure/day of combat

$$\frac{0.3183}{2 \times 30} = \underline{0.0053 \text{ T/D}}$$

NVA DIVISION

1. 12,000 men
2. Division Equivalent*

15	Inf Bn
1	Mtr Bn
1	RR Bn
1	AAA Bn
3. Weight of weapons (short tons)

15	x 2.5661	=	39.8415
1	x 3.1848	=	3.1848
1	x 1.9149	=	1.9149
1	x 3.6693	=	3.6693
			<u>48.6105</u>

tons
4. Weapons Replacement (short tons per day)

1 day in 30 - 5%

$$\frac{48.6105 \times 0.05}{30} = 0.0802 \text{ T/D}$$

2 days in 30 - 6%

$$\frac{48.6105 \times 0.06}{30} = 0.0962 \text{ T/D}$$

3 days in 30 - 7%

$$\frac{48.6105 \times 0.07}{30} = 0.1122 \text{ T/D}$$
5. Ammunition Expenditure/day of combat (short tons per day)

15	x 3.5287	=	52.9305
1	x 3.3955	=	3.3955
1	x 4.0314	=	4.0314
1	x 3.1656	=	3.1656
			<u>63.5230</u>

$$\frac{63.5230}{2 \times 30} = 1.0587 \text{ T/D}$$

* Division Equivalent = The equivalent in type units for Class V and weapons requirements

VC DIVISION

1. 10,500 men

2. Division Equivalent*

15 Inf Bn
1 Mtr Bn
1 RR Bn
1 AAA Bn

3. Weight of Weapons (short tons)

15	x	2.4866	=	37.2990
1	x	1.1772	=	1.1772
1	x	1.0295	=	1.0295
1	x	0.8704	=	0.8704
				<u>40.3761</u> short tons

4. Weapons replacement (short tons per day)

1 day in 30 - 5%

$$\frac{40.3761 \times 0.05}{30} = 0.0673 \text{ T/D}$$

2 days in 30 - 6%

$$\frac{40.3761 \times 0.06}{30} = 0.0808 \text{ T/D}$$

3 days in 30 - 7%

$$\frac{40.3761 \times 0.07}{30} = 0.0942 \text{ T/D}$$

5. Ammunition expenditure/day of combat (short tons per day)

15	x	2.6482	=	39.7230
1	x	1.1401	=	1.1401
1	x	1.5128	=	1.5128
1	x	2.0892	=	2.0829
				<u>44.4588</u>

$$\frac{44.4588}{2 \times 30} = 0.7410 \text{ T/D}$$

* Division Equivalent - the equivalent in type units for Class V and weapons requirements

REQUIREMENTS BY CLASS AND TYPE UNITS

REQUIREMENTS

NVA Division - 12,000 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	11.6880	11.7420	11.7900
Equipment	3.1000	3.2000	3.3000
Weapons	0.0842	0.1011	0.1179
Ammunition	<u>1.1015</u>	<u>2.2030</u>	<u>3.3045</u>
TOTAL (short tons daily)	15.9737	17.2461	18.5124
(Short tons less Food)	4.2857	5.5041	6.7224

NVA Infantry Battalion - 600 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.5844	0.5871	0.5895
Equipment	0.1550	0.1600	0.1650
Weapons	0.0044	0.0053	0.0062
Ammunition	<u>0.0588</u>	<u>0.1176</u>	<u>0.1764</u>
TOTAL (short tons daily)	0.8026	0.8700	0.9371
(Short tons less Food)	0.2182	0.2829	0.3476

NVA Infantry Regiment - 2900 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	2.3376	2.3484	2.3580
Equipment	0.6200	0.6400	0.6600
Weapons	0.0176	0.0212	0.0248
Ammunition	<u>0.2352</u>	<u>0.4704</u>	<u>0.7056</u>
TOTAL (short tons daily)	3.2104	3.4800	3.7484
(Short tons less food)	0.8728	1.1316	1.3904

NVA Mortar Battalion - 400 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.3896	0.3914	0.3930
Equipment	0.1033	0.1067	0.1100
Weapons	0.0053	0.0063	0.0074
Ammunition	<u>0.0566</u>	<u>0.1132</u>	<u>0.1698</u>
TOTAL(short tons daily)	0.5548	0.6176	0.6802
(Short tons less Food)	0.1652	0.2262	0.2872

NVA Recoilless Rifle Battalion - 400 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.3896	0.3914	0.3930
Equipment	0.1033	0.1067	0.1100
Weapons	0.0032	0.0038	0.0045
Ammunition	<u>0.0672</u>	<u>0.1344</u>	<u>0.2016</u>
TOTAL(short tons daily)	0.5633	0.6363	0.7091
(Short tons less Food)	0.1737	0.2449	0.3161

NVA AAA Battalion - 400 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.3896	0.3914	0.3930
Equipment	0.1033	0.1067	0.1100
Weapons	0.0061	0.0073	0.0086
Ammunition	<u>0.0528</u>	<u>0.1056</u>	<u>0.1584</u>
TOTAL(short tons daily)	0.5518	0.6110	0.6700
(Short tons less Food)	0.1622	0.2196	0.2770

VC Division - 10,500 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	10.2270	10.2740	10.3160
Equipment	0.5423	0.5601	0.5775
Weapons	0.0699	0.0839	0.0979
Ammunition	<u>0.7689</u>	<u>1.5378</u>	<u>2.3067</u>
TOTAL (short tons daily)	11.6081	12.4558	13.2981
(Short tons less Food)	1.3811	2.1818	2.9821

VC Main Force Infantry Battalion - 500 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.4870	0.4893	0.4913
Equipment	0.0258	0.0267	0.0275
Weapons	0.0041	0.0050	0.0058
Ammunition	<u>0.0441</u>	<u>0.0882</u>	<u>0.1323</u>
TOTAL (short tons daily)	0.5610	0.6092	0.6569
(Short tons less Food)	0.0740	0.1198	0.1656

VC Main Force Infantry Regiment - 2,500 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	1.9480	1.9572	1.9652
Equipment	0.1033	0.1067	0.1100
Weapons	0.0164	0.0200	0.0232
Ammunition	<u>0.1764</u>	<u>0.3528</u>	<u>0.5292</u>
TOTAL (short tons daily)	2.2441	2.4367	2.6276
(Short tons less Food)	0.2961	0.4795	0.6624

VC Mortar Battalion - 250 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.2435	0.2446	0.2456
Equipment	0.0129	0.0133	0.0138
Weapons	0.0020	0.0024	0.0027
Ammunition	<u>0.0190</u>	<u>0.0380</u>	<u>0.0570</u>
TOTAL(Short tons daily)	0.2774	0.2983	0.3191
(Short tons less Food)	0.0339	0.0537	0.0735

VC Recoilless Rifle Battalion - 250 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.2435	0.2446	0.2456
Equipment	0.0129	0.0133	0.0138
Weapons	0.0017	0.0021	0.0024
Ammunition	<u>0.0252</u>	<u>0.0504</u>	<u>0.0756</u>
TOTAL(Short tons daily)	0.2833	0.3104	0.3374
(Short tons less Food)	0.0398	0.0658	0.0918

VC AAA Battalion - 250 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.2435	0.2446	0.2456
Equipment	0.0129	0.0133	0.0138
Weapons	0.0015	0.0017	0.0020
Ammunition	<u>0.0347</u>	<u>0.0694</u>	<u>0.1041</u>
TOTAL(Short tons daily)	0.2926	0.3290	0.3655
(Short tons less Food)	0.0491	0.0844	0.1199

VC Local Force Battalion - 420 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.4091	0.4108	0.4127
Equipment	0.0217	0.0224	0.0231
Weapons	0.0035	0.0042	0.0049
Ammunition	<u>0.0376</u>	<u>0.0752</u>	<u>0.1108</u>
TOTAL (Short tons daily)	0.4719	0.5126	0.5515
(Short tons less Food)	0.0628	0.1018	0.1388

SAPPER Battalion - 500 Men

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.4870	0.4893	0.4913
Equipment	0.0258	0.0267	0.0275
Weapons	0.0010	0.0012	0.0014
Ammunition	<u>0.0155</u>	<u>0.0310</u>	<u>0.0465</u>
TOTAL (Short tons daily)	0.5293	0.5482	0.5667
(Short tons less Food)	0.0423	0.0589	0.0754

Irregular & Local Force - 100 Man Slice

	<u>1 in 30</u>	<u>2 in 30</u>	<u>3 in 30</u>
Food	0.0974	0.0979	0.0983
Equipment	0.0005	0.0006	0.0007
Weapons	0.0007	0.0008	0.0010
Ammunition	<u>0.0053</u>	<u>0.0106</u>	<u>0.0159</u>
TOTAL (Short tons daily)	0.1086	0.1146	0.1207
(Short tons less Food)	0.0112	0.0167	0.0224

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CARRIER CHARACTERISTICS



TRUCK 4X2 MAZ-157

Weight 14112 lbs
 Wheelbase 128 in
 Length 25 ft
 Width 8 ft 7 in
 Height 7 ft 10 in
 Engine 120 HP 4 cyl Diesel
 (early models 110 HP)
 Speed 40 mph
 Payload: road 15435 lbs
 cross country 11025 lbs
 Towed load 20948 lbs
 Fuel capacity 59 gal
 Cruising range 261 miles



TRUCK 6X6 ZIL-157

Weight 11998 lbs
 Wheelbase 168 in
 Length 21 ft 10 in
 Width 7 ft 7 in
 Height over cab 7 ft 8 in
 Engine 109 HP 6 cyl
 gasoline
 Speed 41 mph
 Payload: road 9900 lbs
 cross country 5500 lbs
 Towed load 7920 lbs
 Fuel capacity 40 gal
 Cruising range 249 miles



TRUCK 4X4 ZIL-131

Weight fully equipped 12112 lbs
 Wheelbase 128 in
 Length 21 ft 10 in
 Width 8 ft 7 in
 Height over cab 7 ft 10 in
 Engine 130 HP 4 cyl Diesel
 Speed 40 mph
 Payload: road 11000 lbs
 cross country 6000 lbs



TRUCK 6X6 MAZ-131

Weight 24860 lbs
 Wheelbase 153 in
 Length 31 ft 8 in
 Width 8 ft 10 in
 Height over cab 8 ft 5 in
 Engine 165 HP 6 cyl
 Diesel
 Speed 34 mph
 Payload: road 26400 lbs
 cross country 11000 lbs
 Towed load 31000 lbs
 Fuel capacity 119 gal
 Cruising range 500 miles

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Vehicle Summary:

<u>Type Truck</u>	<u>Read</u>	<u>Gross Country</u>	<u>Payload</u>	<u>Towed</u>	<u>Fuel</u>	<u>Capacity</u>
4x2 Ural ZIS # 355M	7700	6600	11025	gas		
6x6 Star 66	8620	5513	8820	diesel		
4x4 GAZ 63 *	4400	3300	4400	gas		51.5 gal
6x6 Ya AZ 214	110000	22000		diesel		30 gal
4x4 MAZ 502 #		8800	20948	diesel		119 gal
4x2 MAZ 200 #	15435	11025	20948	diesel		59 gal
6x6 ZIL 157	9900	5500	7920	gas		40 gal
6x6 ZIL 131	11000	6600		gas		
6x4 Ya AZ 210	26400	23000	33000	diesel		119 gal

* The truck most commonly observed in the Latvian Panhandle. It is four wheel drive, Soviet make and was designed for troops and general cargo.

Regular observation.

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Porter requirements:

1. Factors included:

- a. X porters to carry given load.
- b. L losses.
- c. R rest period allowance.
- d. x porters to carry rations.
- e. l losses.
- f. r rest period allowance.

2. Calculations:

- a. $X = \frac{\text{Given Load}}{\text{Porter Capacity}}$.
- b. $Z = (X + L) R$ where R is 7/6 or 7/5.
- c. $x = \frac{Z \text{ times daily ration requirement.}}{\text{Porter Capacity}}$
- d. $(x + l)r = z \approx z + \frac{z \text{ times daily ration requirement.}}{\text{Porter Capacity}} *$

3. Example:

Compute the number of porters required to move 30,000 pounds of rice a distance of 81 miles over mountains using yokes and baskets.

Assumptions: A porter can carry 30 pounds, 9 miles per day by this method (see page 50).

Losses = 18 %.

A day of rest will be given to each porter.

Porters require 3 pounds of rice per day.

Calculations: $X = (30,000)/(30) = 1000$ porters

$Z = (1000 + 180) (7/6) = 1218$ porters.

$x = (1218) (3)/(30) = 122$ porters.

$z = (122 + 22) (7/6) = 168$ porters.

$\approx 168 + (168) (3)/30 = 168 + 17 = 185$ porters.

Total requirement: $1218 + 185 = 1403$ porters for 9 days.

* \approx means in the order of magnitude of (or approximately)

Planning Figures

1. Porter using a yoke and 2 baskets:

<u>Type Load</u>	<u>Poundage</u>	<u>Lowlands</u> mpd	<u>Mountains</u> mpd
Soft Goods (rations)	55	15	
Soft Goods (rations)	30		9
Hard Goods (ammo)	44	12	
Hard Goods (ammo)	32		7

2. Porter using a back pack:

<u>Type Load</u>	<u>Poundage</u>	<u>Lowlands</u> mpd	<u>Mountains</u> mpd
Soft Goods (rations)	86	15	
Hard Goods (ammo)	46		7½

Speed of Movement (mph):

	<u>NVN</u>		<u>Laos</u>		<u>Cambodia</u>	
	Day	Night	Day	Night	Day	Night
Vehicles:						
Lowlands	18-24	9-12	10-16	5-8		
Mountains	9-15	5-8	5-11	3-6		
Porters and Attendants						
Lowlands	3	2	3	2	3	2
Mountains	2	1	2	1	2	1

Carrying Capacities:

<u>Carrier</u>	<u>Capacity</u>
Man	500 lbs
Wagon, pushed	500 lbs
Wagon, pulled	500 lbs
Ox cart	500 lbs
Elephants	500 lbs
Water Buffalo	250 lbs

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Methods of Packaging and Transporting Supplies:

1. Rice: 220 lb bags or sacks
2. Rice: 22 to 33 lb tubes
3. Salt: same as rice
4. Ammunition: 50 lb wooden boxes
5. Fuel: 5 gal cans, 55 gal drums
6. Other foods: in sacks or bags of various sizes
7. Medicine: bottled or syrettes small enough to be hidden on a person
8. Chemicals:
 - a. Saltpeter: 220 lb units
 - b. Sulphur: 110 to 220 lb units
 - c. Mercury: 22 lb units
 - d. Acid: liter bottles

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11-1425-66
10-2502-66
09-2415-66
06-1399-66
03-1261-66
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CDEC 04-0013-66
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CDEC 05-1507-66
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